



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENTAL CONTROL
DIVISION OF FISH & WILDLIFE
NATURAL HERITAGE AND ENDANGERED SPECIES PROGRAM
4876 Hay Point Landing Road Smyrna, Delaware 19977
Phone: 302-735-8651
Fax: 302-653-3431

Thank you for considering being a volunteer for the **Delaware Bat Program: Bat Spotters**. We are asking volunteers to find or adopt a bat colony and count the bats as they leave their roosts to feed in the evenings. The colony could be in a barn, attic, tree or bat box... anywhere you find a group of bats hanging out together. If you don't know of any roosts sites, contact us to adopt one in your area. Bats are extremely beneficial to our environment and keeping track of them is a fun and rewarding activity for all ages. It's an interesting and unique way to connect with nature and do something helpful for wildlife. Anyone can volunteer!

Why monitor the bats in Delaware?

Bats are a major predator of night-flying insects, providing us with a valuable and free service. In addition to mosquitoes, bats eat many of the pests that affect our crops including cucumber beetles, ground beetles, and leaf hoppers. It is to our benefit to have them around.

And bats are in trouble ... BIG trouble! A new disease has emerged that is killing huge numbers of bats. White Nose Syndrome (WNS) has caused major mortality at winter hibernation sites across the eastern US and Canada. WNS is characterized by a white, cold-loving fungus; it causes a sub-dermal infection, unusual behaviors, and eventually death to the bats. ***In April 2010, the White-nose Syndrome fungus was confirmed on live bats in Delaware, and surveys in March 2012 confirmed WNS infection in Delaware's bats.*** Delaware doesn't have caves or mines for hibernating bats so we do not see the direct die-offs other states have witnessed. However, we expect to see changes to our bat populations because many of our bats migrate from hibernation sites in WNS-affected states. We don't yet completely understand how the disease affects summer bat colonies. The Delaware Division of Fish and Wildlife is working closely with other state biologists to monitor the effects of this horrible disease, and we can really use your help.

What can you do to help?

- Find or adopt a bat roost in your area (adoptions available).
- Count the bats as they emerge from their roost in the evening.
- Fill out the landowner data sheet, count data sheet, and timesheet.
- Send the completed forms to the Delaware Division of Fish & Wildlife.

When can I start?

Tonight! We ask that each volunteer conduct at *least* one count between May 15th and June 21st and one count between July 4th and July 15th. However, counting bats at your site on a weekly basis or more is strongly encouraged and helps us learn even more about the bats that live there. If you can only do one survey, the best time to survey is the second week in July when young are flying and the colony has not yet dispersed for the season. Counts can range from a single bat to several hundred at one site.

Come and join the bat spotters!

It can be an exciting, educational and fun wildlife viewing activity. Many people turn this survey into a social event with a dinner or dessert stop afterward. This is an exciting opportunity to get involved and become a citizen scientist in important research. Once you start, you may enjoy it and want to learn more. You can start by going to:

<http://www.dnrec.delaware.gov/fw/bats/>
We look forward to hearing from you.

Volunteer Project Instructions

INTRODUCTION

Your survey results will be used to

- Identify and evaluate the approximate size of bat maternity roosts by counting bats as they emerge from roost site.
- Evaluate differences between adult-only counts, and adults-and-young, using more extensive surveys at some locations.

The Goals of the survey are to

- Gather base line information on summer colonies
- Evaluate the impact of WNS on summer colonies over time
- Assist in the identification of the primary WNS fungus
- Determine if WNS fungus persist and can be transmitted in summer roosts; and correlate long term trends with the spread of WNS.

COMMITMENT

Locating and conducting a base line emergence count is one of the most important aspects of this study. It is hoped that surveyors will adopt your site over the next several years or longer. However, you can do as little as one count per year or as many as 24. The minimal commitment is that a volunteer or researcher who locates at least one roost conducts a minimum of one emergence count of that site per year. You may be contacted by biologists to use your site in a more extensive study. Once you have participated with an initial commitment and learn how much fun counting bats is, you may want to increase your effort. Listed below are different levels that can be used in this study.

LEVEL 1- Conduct an emergence count at a roost before pups begin flying (pre-volant) and after they can fly (post-volant).

Pre-Volant (before pups can fly): May 15 – June 21.

Other – June 21-July 4 – some pups are flying, but not all. These counts are not as precise as pre- or post-volant.

Post-Volant (after pups can fly): July 4 – July 15. **(Previous Bat Spotters, note new end date!)** At least one (pref. 2) or more emergence counts after most pups begin flying. Target: second week of July.

LEVEL 2- Conduct an emergence count at least once per month (or more!) between May 15-July 15.

NOTE:.. Extra counts can be conducted into August, but some bat colonies begin breaking up for the year by July 15.

Volunteers: Another aspect of this study involves researchers with the appropriate state and federal permits. You may be contacted for permission to use your site in these studies. Proposed work includes netting during the pre-flight period to capture females and evaluate reproductive condition, gathering weight data, banding, and collecting samples for lab studies such as skin, hair and blood samples.

PROTOCOL (How to do the survey)

Finding colonies of bats: Tin-roofed barns, church steeples, and other old structures provide the best opportunities for finding bat roosts. Guano that looks like mouse droppings below a suspected entry point is usually a tell-tale sign. Little brown (*Myotis lucifugus*) and big brown (*Eptesicus fuscus*) bats congregate in spring through summer to give birth and rear their young. These species are both heavily impacted by White Nose Syndrome and are of great interest for our study.

Data Forms: ALL FORMS MUST BE COMPLETED, SIGNED AND DATED IN INK. The information you collect will be maintained in a database used to research WNS. A database provides uniform formatting and storage of your data so it can be compared with other surveys. This requires the use of standardized reporting forms.

1. **Volunteer Information and Agreement:** Your contact information, and waiver.
2. **Site and Landowner Data:** Location information and landowner permission is very important. Please record the location and contact information as best you can, if it cannot be determined write “unknown.” A guano sample can be collected from the site for biologists at DFW to attempt identification.
3. **Roost Monitoring Data Sheet*:** Use this form for recording the bat count. Be sure to fill out completely including weather data. Make a note of others with you in the comments. Also note any unusual observations. The page has space for 2 counts. More copies can be printed from the website: www.dnrec.delaware.gov/fw/bats.
4. **Volunteer Timesheet*:** Researching a wildlife disease is an expensive adventure. Funding the work requires grants and most grants (including the one funding the regional initiative on WNS) require grant funds be matched with a percentage of the grant. In other words, nothing is free. By completing the volunteer timesheet and information form, your time spent on this survey can be applied to the required grant match.
 - a. Timesheets must be filled out in **ink** (no pencils).
 - b. Individual Timesheets – volunteers must provide contact information, check the corresponding box for volunteer status, sign at the bottom of the form and must fill in their own time in, time out and total hours.

Volunteer Name <u>your name</u>
Phone <u>your phone number</u>
Program/Project <u>“DEFW Delaware Bat Spotters”</u>
Location <u>your assigned site’s name, street address</u>
Month Reported <u>May (ex: 5/17, 5/20, 5/22. Print new for June or July)</u>

- c. Group Timesheets – volunteers must print and sign their name, check the column for the appropriate age bracket, and must fill in their own time in, time out and total hours.
- d. The Project Leader must review and certify each timesheet for accuracy, completeness and compliance with Federal regulations. Upon completion of the review, the Project Leader must sign and date each timesheet before the information is entered into the volunteer service hours database.

Duration of Work	Time Recorded
0-15 minutes	.25 hour
16-30 minutes	.50 hour
31-45 minutes	.75 hour
46-60 minutes	1.00 hour

The Survey: Leave plenty of time before the actual count to scout out all the exits where bats may fly from. You may find that you need help in covering all the exits (front and back of a structure).

- Arrive ½ hour before sunset, survey when starting temperatures are above **60°F, with wind and sky codes of 3 or less.**
- Bring a thermometer, pen, data sheet and timesheet.
- Locate where the bats are exiting the structure and count them as they exit. Some may re-enter, especially when there are pups inside. Try to keep track of this so that bats are not double-counted.
- Position both yourself and helpers for easy viewing of bats exiting. Silhouetted bats against the sky for easier viewing.
- When more than one surveyor is necessary – remember “same site, same time.” If not all roost exits can be observed at the same time, reschedule for a time when all surveyors are present.
- Please remember to ask permission of the landowner and enjoy bat spotting.
- If you are unable to complete all your counts, please arrange a substitute or contact the Bat Program Coordinator.



Return All Completed Forms to:

Delaware Bat Spotters

DEFW: Species Conservation and Research Program

4876 Hay Point Landing Rd

Smyrna, DE 19977

DE Bat Spotters

Landowner and Roost Site Information

Site name: _____ State **DE** County: New Castle Kent Sussex

LAT: _____ ° - _____ ' - _____ " (N)

LON: _____ ° - _____ ' - _____ " (W)

DATUM (circle): WGS84 (preferred) – NAD83 – NAD27

Lat/Lon Precision (circle): GPS – From Map – County. Resolution – Not Mapped – Other (specify) _____

LANDOWNER INFORMATION (CONFIDENTIAL):

NAME: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

PHONE: _____ EMAIL: _____

SURVEYOR(S) NAME: _____

Roost Structure is: Barn – church – occupied house – unoccupied house – utility building – bat box – bat condo – bridge – tree –

Unknown – other structure (describe): _____

Roost Structure fate/plans are: Bat Exclusion Planned Possible Bat Exclusion No Exclusion Planned Other _____

Primary Species within Roost: _____ or Unknown (circle if unknown)

(list only 1 if known., and make comments on others)

COMMENTS (include directions to site, all places where bats are exiting, how many surveyors needed at site, other species roosting, landowner's plans for the bat colony, history of site regarding bats, etc. Attach more sheets if needed):

Roost Monitoring Data Sheet

SITE NAME _____ **SURVEYOR:** _____

DATE	SKY CODE NO	WIND CODE NO	START TEMP °F	START TIME (24 hr)	END TIME (24 hr)	TOTAL BATS COUNTED	TECHNIQUE USED enter VISUAL or VIDEO

Other Surveyors:

Other
COMMENTS:

SITE NAME _____ **SURVEYOR** _____

DATE	SKY CODE NO	WIND CODE NO	START TEMP °F	START TIME (24 hr)	END TIME (24 hr)	TOTAL BATS COUNTED	TECHNIQUE USED enter VISUAL or VIDEO

Other Surveyors:

Other
COMMENTS:

SKY		WIND		
CODE	DESCRIPTION	CODE	DESCRIPTION	~Speed
1	Clear-Clear to a few clouds	1	Calm-Leaves Still	0 MPH
2	Partly Cloudy-Clouds but variable sky conditions	2	Slight Breeze-Leaves slightly Rustling	1-7 MPH
3	Cloudy-Mostly cloudy or overcast	3	Gentle Breeze-Leaves and twigs in motion	8-12 MPH
4	Drizzle-Light intermittent rain	4	Mod. Breeze-Small branches begin to move	13-18 MPH
5	Showers-Steady soaking rain	5	Windy-Small Trees or more in canopy sway	19-24+ MPH
6	Thunderstorms-Rain with thunderstorms	6	Not Recorded-	Not Recorded
7	Not Recorded-Not Recorded			

Sky and wind codes of 1 – 3 are best. Code of 4 is marginal. Avoid surveying if code is higher than 4.

Roost Monitoring Data Sheet

SITE NAME _____ **SURVEYOR:** _____

DATE	SKY CODE NO	WIND CODE NO	START TEMP °F	START TIME (24 hr)	END TIME (24 hr)	TOTAL BATS COUNTED	TECHNIQUE USED enter VISUAL or VIDEO

Other Surveyors:

Other
COMMENTS:

SITE NAME _____ **SURVEYOR** _____

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6	Thunderstorms-Rain with thunderstorms	6	Not Recorded-
7	Not Recorded-Not Recorded		

Sky and wind codes of 1 – 3 are best. Code of 4 is marginal. Avoid surveying if code is higher than 4.

TROUBLESHOOTING and FAQ'S

There are no bats at my site, why?

- Check that the weather, dates, or time of day is within the protocol range.
- Has there been construction, exclusion, or other disturbances lately?
- Colonies can move for unknown reasons. Schedule another count within a week to determine if bats have abandoned the site or just moved for a few days. Record notes in comments of data sheet.

I found a bat on the ground. What do I do?

Do not touch directly. Bats, like any mammal, could potentially carry rabies and should be treated as such; individuals bitten by bats must submit the bat for testing and/or proceed to the emergency room for precautionary rabies treatment. Call 866-972-9705 for instructions on animal bites.

- *Is it Dead?* Using gloves place in a baggie, freeze, and contact the Bat Program Coordinator for instructions.
- *Is it Hurt?* Avoiding contact, gently scoop into a container with secure lid and contact a licensed wildlife rehabber.
- *Is it just young, or grounded?* Bats not visibly injured should be gently moved (without directly touching it) to the base of a tree and left alone. Young pups should be turned over to a licensed wildlife rehabilitator.

A neighbor came out to watch with me, and reported another roost nearby. What do I do?

- That is great! Fill out a new landowner site for and report to the DBP right away. You may also monitor this site, or it may be assigned to another volunteer if needed.

Landowner Courtesy:

- All bat colony locations are confidential for research and privacy purposes, please be respectful. This extends to any family or friends who might help you with bat counts.
- Be in touch with your landowner – establish direct communication early.
 - Some will allow free access to the property; others will want to be contacted prior to each count.
 - Be friendly – they are volunteering the use of their property.
- Say Thanks! Not all landowners love their bats as much as we do, but have graciously allowed the Bat Spotters to monitor the colony.
- The landowner retains the right to exclude the bats, sell the property, make changes to the landscape, etc.
- If your landowner informs you of any changes to their participation in the program, or has moved please contact your Bat Program Coordinator *before* attempting any further data collection.
- If a new landowner is willing to participate in the study, fill out landowner data form and return to DBP.

Forms:

- **Use INK only to fill out all fields, sign and date each form.**
- Use one individual time sheet per person, or one group sheet for everyone involved per night.
- Return original to DEFW: Delaware Bat Program
- Incomplete forms cannot be used, please fill out all fields.
- Originals of all data sheets, time sheets, volunteer agreements, and landowner form changes need to be returned to the Delaware Bat Program. This project requires original copies of all forms and signatures.

WHAT IF:

My landowner moves?

I don't want to count anymore?

It is no longer possible for me to participate?

I can't make it out during the count times?

In all cases, contact the Delaware Bat Program Coordinator. Your participation is greatly appreciated, and the Delaware Bat Program fully understands that volunteer availability can change over time.



Delaware Bat Program

Bat Survey in Progress

For questions or to join the Bat Spotters, contact:

302-735-8674

Delaware Division of Fish & Wildlife
Species Conservation and Research

www.dnrec.delaware.gov/fw/bats

Facebook: Delaware Bat Program



Delaware Division of Fish and Wildlife
Individual Volunteer Application Form



Name: _____
(First) (M.I.)

Address: _____
(Street) (City) (State) (Zip)

Home Phone: _____ Cell Phone: _____

E-mail address: _____

Return Completed Form to: (Last)

DE Div. of Fish and Wildlife
Delaware Bat Program
4876 Hay Point Landing Rd.
Smyrna, DE 19977

▪ Will you be volunteering to fulfill a service requirement? ☐ Yes ☐ No

If so, for what group/organization? _____ Hours Required _____

★ **OBJECTIVE** for volunteering with Delaware Division of Fish and Wildlife: _____

★ **COMMITMENT** I am interested in:

- Bat Spotters Colony Monitoring: 2 or more evenings per summer
- Acoustic Transect: Once per month in May, June, July, and August (must have own laptop)

★ **CONSIDERATIONS** (please check all that apply and explain)

☐ Age ☐ Physical ☐ Health ☐ Mobility ☐ Other

Please explain: _____

★ **AVAILABILITY:** Please indicate the best day(s) and time(s) for you

- ☐ Mon ☐ Tues ☐ Wed ☐ Thurs ☐ Fri ☐ Sat ☐ Sun **OR**
- ☐ Any Weekday ☐ Any Weekend ☐ AM Only ☐ PM Only **OR**
- Specific Date(s): _____ Specific Time(s): _____

★ **EMERGENCY CONTACT INFORMATION:** (Individuals to be notified in case of emergency)

1. _____
(Name) (Relationship) (Phone Number)

2. _____
(Name) (Relationship) (Phone Number)

★ **VOLUNTEER STATUS:** Surveyor Type (circle what best describes you):

Landowner -You are surveying a roost on your own property.

Volunteer -You are surveying as a volunteer and have limited expertise in both bat identification and ecology.

Student -You are a student studying bats with a basic expertise in both bat identification and ecology.

Researcher -You are actively involved in bat research on an academic and/or professional level.

Are you **Rabies Vaccinated*** - Yes / No

Titer Level & Date:

**(for volunteers who might come in contact with live bats during sampling for White Nose Syndrome.)*

Comments/Experience:

★ Have you ever been convicted of a felony or Class A Misdemeanor? ☐ Yes ☐ No

If yes, please explain: _____

The Department of Natural Resources and Environmental Control is committed to affirmative action, equal opportunity, and the diversity of its workforce.

INDIVIDUAL VOLUNTEER POLICY

Please make certain you have read and agree to the following before signing.

- Volunteers perform service without compensation and are not considered employees of the State of Delaware. The Division of Fish and Wildlife does not provide Worker's Compensation or any other insurance coverage for volunteers. As a volunteer I will not attempt work that is beyond my abilities or for which I have not been assigned, trained, or authorized. I further understand that photographs may be taken at events and I give my permission to the Division of Fish and Wildlife and the Department of Natural Resources and Environmental Control to utilize my photographs in future publications, promotional materials and exhibits.
- The Division of Fish and Wildlife (henceforth referred to as the Division) cannot guarantee volunteer placement. The Division will, however, make every effort to match volunteer applicants to volunteer opportunities based on the needs of the Division and the interests and abilities of the volunteer.
- The Division employs a screening process for all volunteers based on the nature of the volunteer work and involvement level of the participant. Volunteers working with children or vulnerable populations, money, vehicles, data and information management, in a supervisory capacity, or otherwise required by Division staff will be required to undergo a Background Investigation conducted by the Division as a part of the screening process.
- Acceptance as a volunteer is contingent upon successful completion at all levels of screening.
- The Division reserves the right to reject a candidate for any reason which the Division, in its sole judgment, determines may affect the best interests of the Division. The Division reserves the right to withhold the reason(s) for such refusal.
- The Division accepts the service of all volunteers with the understanding that such service is at the sole discretion of the Division. Volunteers agree that the Division and the Volunteer may at any time, for any reason, decide to terminate the volunteer's relationship with the Division. Notice of such a decision should be communicated as soon as possible to the volunteer's supervisor.

(Signature of Applicant)

(Date)

REQUIRED IF UNDER 18 YEARS OF AGE:

I certify that (name) _____, my son/daughter, is fully capable of participating as a volunteer without compensation and has my permission to be assigned and participate as a volunteer for the Division of Fish and Wildlife. I understand the risks involved with being a volunteer and acknowledge that neither the State of Delaware, nor the Department of Natural Resources and Environmental Control, nor the Division of Fish and Wildlife, nor any state employee, will assume financial liability for injury or illness that might occur while my child is volunteering for the Division of Fish and Wildlife.

(Age if under 18)

(Signature of Parent or Guardian)

(Date)

Volunteer Timesheet for Individuals



The Department of Natural Resources and Environmental Control is committed to affirmative action, equal opportunity, and the diversity of its workforce.



Volunteer Name _____

Phone _____

Program/Project _____

Location _____

Month Reported _____

Please provide all information in ink. Any changes or corrections should be made by drawing a line through the error and correcting the error in ink. The person making the correction must also initial it.

Date	Activity <i>Please Be Specific</i>	Total Hours*
Total hours for all days volunteered (Submit additional sheets if more days/hours are to be reported.)		

**Subtract lunch/break time from the total hours recorded each day.*

Volunteer Status (check whichever applies)

- ☐ True volunteer receiving no compensation for time donated.
- ☐ Compensated by federal grant or employer with federal funding source.
Please identify grant or employer _____
- ☐ Compensated by employer with a non-federal funding source.
Please identify employer _____

Please Check the Correct Age Bracket

Under 14 ☐ 14-15 ☐ 16-17 ☐ 18 or older ☐

For Office Use Only

Project Leader _____

Certification _____

Date Approved _____

Date Entered _____

Entered By _____

Grant Code _____

By signing below, I certify that the information above is true and correct. (If volunteer is under the age of 18, parent/guardian signature is required.)

Volunteer Signature

Date

Parent/Guardian Signature

Volunteer Log-In for Events



The Department of Natural Resources and Environmental Control is committed to affirmative action, equal opportunity, and the diversity of its workforce.



Event/Activity _____

Location _____

Date _____ Code _____

Position Equivalent _____

Please read before signing! By signing below, I acknowledge and agree to the following:

- That I understand the risks involved in being a volunteer for the Division of Fish and Wildlife (DFW) and that neither the State of Delaware, nor the Department of Natural Resources and Environmental Control (DNREC), nor the DFW, nor any state employee or contractor, will assume any financial liability for any injury or illness that I, or any family member or friend in attendance with me, might incur while performing voluntary service for the DFW.
- Volunteers are not considered employees of the State of Delaware. The DFW does not provide Worker's Compensation or any other insurance coverage for volunteers.
- I agree to provide service as a volunteer without compensation and to adhere to DFW rules and procedures and will not attempt work that is beyond my abilities or for which I have not been assigned, trained, or authorized.
- I understand that photographs may be taken at this event/activity, and I give permission to the DFW and DNREC to utilize my photographs in future publications, promotional materials and exhibits.

Volunteer Name	Signature (required for each volunteer)	Check the correct age bracket				Total hours
		under 14	14-15	16-17	18 or older	

All information must be recorded in ink. Any changes or corrections should be made by drawing a line through the error and correcting the error in ink. The person making the correction must also initial it.

The volunteer hours reported above are confirmed to be accurate and true by: _____
Signature DE Division of Fish and Wildlife Event Supervisor *Date*

Project Leader
 Certification: _____
Signature *Date*

Date Hours Entered: _____ Hours Entered By: _____